Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte WILLIAM A. WELSH and STEPHEN R. SCHMIDT

Appeal No. 1997-1791
Application No. 08/485,304

ON BRIEF

Before KIMLIN, PAK and KRATZ, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 1-5 and 13-16, all the claims remaining in the present application.

Claim 1 is illustrative:

1. A flatting agent comprising an inorganic hydrogel having a pore volume of at least 1.0 ml/g, a volatiles content of at least 40 wt.%, an average particle size in the range of 1 to 10 microns and a particle size distribution such that when the inorganic hydrogel flatting agent is dispersed in a coating vehicle, the fineness of grind is at least 4.75 on a Hegman scale.

In the rejection of the appealed claims, the examiner relies upon the following references:

Young	2,856,268	Oct. 14, 1958
DeWolf, II et al. (DeWolf)	4,474,824	Oct. 2, 1984
Cohen et al. (Cohen)	4,595,578	Jun. 17, 1986
Welsh et al. (Welsh)	5,110,769	May 5, 1992

The present application is a continuation of U.S. Application No. 08/080,436, filed June 18, 1993, now abandoned. An appeal was taken to this Board in the parent application and, in a decision dated July 20, 1999, a merits panel of the Board affirmed the examiner's rejection of the appealed claims under 35 U.S.C. § 102 over the same Cohen patent presently applied by the examiner. The claims of the instant appeal contain a limitation not present in the claims of the prior appeal, namely, the hydrogel has a volatiles content of at least 40 wt.%. In addition, appellants now rely upon two declarations that were not argued in the prior appeal.

Appealed claims 1-5 and 13-16 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Cohen.

We have thoroughly reviewed the respective positions advanced by appellants and the examiner. In so doing, we find that we cannot sustain the examiner's rejection.

Although Cohen discloses inorganic hydrogel having the presently claimed pore volume, average particle size and fineness of grind, the examiner appreciates that Cohen is silent with

respect to the volatiles content of the disclosed hydrogel. However, it is the examiner's position that since appellants' specification states that a minimum volatiles content of 40% is necessary to maintain the pore volume, and the pore volume of Cohen's hydrogel meets the claimed pore volume of at least 1.0 ml/g, it necessarily follows that Cohen "must inherently have such volatiles content" (page 4 of Answer).

If the only evidence of record pertaining to volatiles content was appellant's specification disclosure referenced by the examiner (page 9, lines 9-15), we might agree with the examiner that it is reasonable to conclude that the hydrogel of Cohen has a volatiles content of at least 40 wt.%. However, this is not the case. As urged by appellants, the instant specification discloses that "it is important that the temperature increase of the hydrogel during the milling process be minimized" (page 9, lines 10-12), and "[s]uch milling conditions, as noted above, are characterized by the absence of a substantial temperature increase of the hydrogel during milling" (page 9, lines 30-33). On the other hand, Cohen indicates no appreciation for minimizing temperature during milling of the hydrogel but, rather, teaches that high temperature milling is employed. For instance, Cohen discloses that:

> Two drying methods were found to give consistently higher pore volumes: (1) heating a thin layer of the gel in a preheated dish in a muffle furnace at 500° to

> 600°C. and (2) direct exposure of the gel to burner flames as the particles pass along an iron channel or flight as in a direct fired rotary kiln.

See column 2, lines 52-57. In addition, Cohen discloses that "[h]ot fluid energy milling of ASH to reduce the particle size was found usually to cause smaller losses in PV compared to normal operation of the mill which showed a larger loss of PV" (column 2, lines 58-61). Furthermore, Cohen exemplifies high temperature milling: EXAMPLE I - 530°C; EXAMPLE II - 500°C+; EXAMPLE III - 530°C; EXAMPLE IV - approximately 510°C; EXAMPLE VI - 240°C-310°C. While EXAMPLE V does not specify the temperature of the milling, the hydrogel is micronized in a heated fluid energy mill. Hence, whether Cohen describes the milled product as a hydrogel or an aerogel, it is clear that Cohen does not employ the minimal temperature during milling which appellants disclose as necessary for producing a hydrogel having a volatiles content of at least 40 wt.%. While the examiner points to claim 14 of Cohen which recites a lower limit of 200°C for drying the treated gel, which temperature the examiner characterizes as "clearly 'mild' enough to maintain the hydrogel as such, as in De Wolf [sic, DeWolf]" (page 7 of Answer), there is no evidence that treating the Cohen gel at 200°C would allow for the maintenance of the claimed volatiles content. Furthermore, there is no evidence that all hydrogels have a volatiles content of at least 40 wt.%.

As additional evidence that the hydrogel of Cohen does not inherently comprise a volatiles content of at least 40 wt.%, appellants offer the declarations of Dr. Stephen R. Schmidt, a co-inventor of the present application, and James Neil Pryor. Both declarants qualify as a person having skill in the art of silica gels. The Schmidt Declaration states that the oil absorption value for the hydrogel listed in Cohen's TABLE II (258) is "indicative of gels in which the liquid media has been removed, and are therefore not hydrogels" (page 2 of Declaration, last full paragraph). In response to the Schmidt Declaration, the examiner states that "[i]t is note [sic, noted] that it is notoriously well known that hydrogels can have high oil absorption values" (page 5 of Answer), but the examiner offers no evidence in support of the statement. Regarding the Pryor Declaration, the declarant states that "[f]rom the above information, I further conclude that the volatiles content of 'Improved (ASH) was less than 24 wt.%, more likely about 4.2 wt.%" (paragraph 14 of Declaration). On the other hand, while the examiner criticizes the confusing nature of the Pryor Declaration with respect to the discussion of the oil absorption data, the examiner does not address the conclusion stated by the declarant at paragraph 14.

In conclusion, based on the foregoing, it is our judgment that the evidence of record, considered as a whole, does not

support the examiner's conclusion that the hydrogel of Cohen inherently comprises a volatiles content of at least 40 wt.%. Accordingly, we are constrained to reverse the examiner's rejection.

REVERSED

EDWARD C. KIMLIN Administrative Patent Judge	)	
CHUNG K. PAK Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
PETER F. KRATZ Administrative Patent Judge	)	

ECK:clm

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